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09/098,190 06/16/98 SHEATS

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WM01/0322

EXAMINER

PIZIALI, J

ART UNIT

PAPER NUMBER

2673

DATE MAILED:

03/22/01

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.

09/098,190

Applicant(s)

SHEATS ET AL.

Examiner

Jeff Piziali

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 3-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 4-7 and 9-12 is/are allowed.
- 6) ☐ Claim(s) 3 and 8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jones (5,920,080) in view of Gu et al. (5,844,363).

Jones discloses a display comprising a plurality of light emitting pixels [Fig. 8, 10], each pixel comprising an isolation transistor [Fig. 1, 100] (Column 7, Lines 21-27), a driving circuit (Column 7, Lines 41-42), and an organic light emitting diode [Fig. 1, 300], the driving circuit storing a value that determines the magnitude of the light emitted by that pixel (Column 7, Lines 45-48), the driving circuit placing the OLED in a conducting path between first [Fig. 8, 801] and second [Fig. 8, 802] power terminals, the isolation transistor connecting the driving circuit to a bit line when the isolation transistor is placed in a conducting state by the application of a logic signal to a word line (Column 7, Lines 39-41), wherein the OLEDs are part of an array of OLEDs, the array comprising: a sheet [Fig. 1, 500] having first and second surfaces, the first and second surfaces being parallel to one another, the sheet being transparent to light of a first wavelength; a first electrode [Fig. 1, 250] comprising a first electrode layer in contact with the first surface, the first electrode layer being transparent to light of the first wavelength; a light emitting layer [Fig. 1, 300] comprising an organic polymer in electrical contact with the first

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electrode layer; and a plurality of second electrodes [Fig. 1, 200], one such second electrode corresponding to each OLED, each of the second electrodes comprising an isolated conducting area in contact with the light emitting layer, the light emitting layer generating light of the first wavelength in a region adjacent to the second electrode when a potential difference is applied across the first and second electrodes, and wherein the isolation transistors are part of an array of transistors on a substrate that is separate from the array of OLEDs (Column 5, Line 65 - Column 6, Line 37). Jones does not disclose expressly a flexible substrate array of OLEDs.

However, Gu et al. does disclose flexible OLEDs (Column 1, Line 32 - Column 2, Line 15). Jones and Gu et al. are analogous art because they are from the shared field of organic light emitting devices.

Thus it would have been obvious to a person of ordinary skill in the art, at the time of the invention, to utilize Gu's flexible OLEDs as Jones' substrate array of OLEDs, so as to provide use as a light weight display device.

3. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jones (5,920,080) in view of Bulovic et al. (5,834,893) and Haskal et al. (5,952,778).

Jones does not disclose expressly a flexible substrate array of OLEDs.

However, Bulovic et al. does disclose a flexible substrate array of OLEDs, wherein the OLEDs have sufficient flexure to allow each OLED to be connected to a corresponding one of the driving transistors when the array of OLEDs is pressed against the array of driving transistors (Column 2, Lines 6-21). Furthermore, Haskal et al. discloses a flexible sheet [Fig. 1, 8] comprising a material impermeable to water and oxygen (Column 3, Lines 19-22). Jones,

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Bulovic et al. and Haskal et al. are analogous art because they are from the shared field of organic light emitting devices.

Thus it would have been obvious to a person of ordinary skill in the art, at the time of the invention, to utilize Haskal's impermeable sheet and Bulovic's flexible OLEDs as Jones' substrate array of OLEDs, so as to provide use as a resilient display device.

#### *Allowable Subject Matter*

4. Claims 4-7 and 9-12 are allowed.

5. The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not expressly disclose a bonding layer comprising an anisotropic conductive adhesive located between the transistor array and the array of OLEDs, the bonding layer being in contact with a plurality of connection points and electrically connecting each of the second electrodes to a connection point corresponding to the second electrode without electrically connecting any one of the second electrodes to a connection point that does not correspond to the second electrode.

#### *Response to Arguments*

6. Applicant's arguments with respect to claims 3 and 8 have been considered but are moot in view of the new ground(s) of rejection.

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*Conclusion*

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kikinis (5,099,301) is cited to further evidence the state of the art in the field of light emitting pixel devices.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Piziali whose telephone number is (703) 305-8382. The examiner can normally be reached on Monday - Friday (6:30AM - 3PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (703) 305-4938. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-6606 for regular communications and (703) 308-9051 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.



J.P.

March 15, 2001



**BIPIN SHALWALA  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600**